AMENDMENTS TO CLAIMS

Claim 1 (currently amended): A method for optically screening sample materials for at least one characteristic, the method comprising:

(a) providing a library of at least four sample materials upon a substrate;

(b) directing an electromagnetic wavefront through a partial mirror at a surface of each of the at least four sample materials wherein the surface of each of the at least four sample materials is substantially non-planar;

(c) monitoring a response of the electromagnetic wavefront after the wavefront encounters the at least four sample materials; and

(d) correlating the response of the electromagnetic wavefront to a surface topography ~~characteristic~~ of the at least four sample materials;

wherein steps (a) through (d) are performed without substantially contacting the at least four sample materials with any probe.

Claim 2 (currently amended): A method as in claim 1 wherein the at least four sample materials are provided upon a substrate with a flexible portion.

Claim 3 (canceled)

Claim 4 (currently amended): A method as in claim 3 further comprising correlating the topography of the surface of the at least four sample materials to a volume of the at least four sample materials.

Claim 5 (original): A method as in claim 4 wherein a mass of the at least four sample materials is predetermined and the method further comprises correlating the mass of the at least four sample materials and the volume of the at least four sample materials to a density of the at least four sample materials.

Claim 6 (original): A method as in claim 1 wherein steps (b) through (d) are repeated for determining a change in the characteristic.

Claim 7 (currently amended): A method as in claims 1 or ~~and~~ 6 wherein said

characteristic is size of the at least four sample materials.

Claim 8 (original): A method as in claim 6 wherein the characteristic is a volume of the at least four sample materials.

Claim 9 (original): A method as in claim 6 wherein each of the at least four sample materials is supported upon a suspended platform.

Claim 10 (original): A method as in claim 9 further comprising applying a stimulus to the at least four sample materials prior to the step of monitoring the response of the electromagnetic wavefront wherein the stimulus causes movement of the at least four sample materials at least during a portion of the step of monitoring the response of the electromagnetic wavefront.

Claim 11 (original): A method as in claim 10 wherein the movement is at least partially oscillation.

Claim 12 (original): A method as in claim 11 wherein the characteristic of the at least four sample materials is AC resonance.

Claim 13 (original): A method as in claim 1 wherein said electromagnetic wavefront is provided by an interferometer.

Claim 14 (original): A method as in claim 1 wherein the electromagnetic wavefront is provide by a laser.

Claim 15 (original): A method as in claim 1 wherein the electromagnetic wavefront has a narrow bandwidth wavelength.

Claim 16 (original): A method as in claim 1 wherein the electromagnetic wavefront is a single wavelength monotonic light.

Claim 17 (currently amended): A method for optically screening sample materials for topography, the method comprising:

(a) providing a library of at least four sample materials;

(b) directing an electromagnetic wavefront simultaneously at a surface of each of the at least four sample materials;

(c) monitoring a reflected portion of the electromatic wavefront that is reflected off of the at least four ~~for~~ sample materials; and

(d) correlating the reflected portion of the electromagnetic wavefront to a topography of each of the at least four sample materials.

Claim 18 (original): A method as in claim 17 wherein steps (a) through (d) are performed without contacting the at least four sample materials with a solid object.

Claim 19 (currently amended): A method as in claim 17 further comprising:

~~(e)~~ correlating the topography of the surface of the at least four sample materials to a volume of the at least four sample materials.

Claim 20 (original): A method as in claim 19 wherein a mass of the at least four sample materials is predetermined and the method further comprises correlating the mass of the at least four sample materials and the volume of the at least four sample materials to a density of the at least four sample materials.

Claim 21 (original): A method as in claim 17 wherein steps (b) through (d) are repeated for determining a change in the topography of the at least four sample materials.

Claim 22 (original): A method as in claim 21 wherein each of the at least four sample materials is supported upon a suspended platform.

Claim 23 (original): A method as in claim 22 further comprising applying a stimulus to the at least four sample materials prior to the step of monitoring the reflected portion of the electromagnetic wavefront wherein the stimulus causes movement of

the at least four sample materials at least during a portion of the step of monitoring the reflected portion of the electromagnetic wavefront.

Claim 24 (original): A method as in claim 23 wherein the movement is at least partially oscillation.

Claim 25 (original): A method as in claim 24 wherein the characteristic of the at least four sample materials is AC resonance.

Claim 26 (original): A method as in claim 17 wherein said electromagnetic wavefront is provided by an interferometer.

Claim 27 (original): A method as in claim 17 wherein the electromagnetic wavefront is provide by a laser.

Claim 28 (original): A method as in claim 17 wherein the electromagnetic wavefront has a narrow bandwidth wavelength.

Claim 29 (original): A method as in claim 17 wherein the electromagnetic wavefront is a single wavelength monotonic light.

Claim 30 (original): A method for optically screening an array of sample materials to determine density of the array of sample materials, comprising:

(a) providing a library of at least sixteen sample materials wherein each of the at least sixteen sample materials are supported by one or more substrates and wherein each of the at least sixteen sample materials is a polymeric product of a separate polymer synthesis reaction;

(b) directing an electromagnetic wavefront at each of the at least sixteen sample materials with a laser wherein the laser is at least a portion of an analytical system;

(c) monitoring the electromagnetic wavefront with a monitor of the analytical system after the wavefront is reflected from a surface of each of the at

least sixteen sample materials to determine distances of the surface from a reference location for determining the topography of the surface as mathematical function;

(d) correlating the topography of the surface of the each of the at least sixteen sample materials to a volume of the at least sixteen sample materials by integrating the mathematical function over an area defined by the surface of each of the at least sixteen sample materials;

(e) repeating steps (b)-(d) to determine any change in the density of the at least sixteen sample materials.

Claim 31 (New): A method as in claim 1, further comprising correlating the topography of the surface of the at least four sample materials to a thickness of the at least four sample materials.

Claim 32 (New): A method as in claim 1, wherein the electromagnetic wavefront is serially directed through the partial mirror at a surface of each of the at least four sample materials.

Claim 33 (New): A method as in claim 1, wherein the electromagnetic wavefront is simultaneously directed through the partial mirror at a surface of each of the at least four sample materials.

Claim 34 (New): A method as in claim 17, further comprising correlating the topography of the surface of the at least four sample materials to a thickness of the at least four sample materials.

Claim 35 (New): A method for optically screening sample materials for thickness, the method comprising:

(b) providing a library of at least four sample materials upon a substrate;

(b) directing an electromagnetic wavefront through a partial mirror at a surface of each of the at least four sample materials;

(c) monitoring a response of the electromagnetic wavefront after the

wavefront encounters the at least four sample materials; and

(d) correlating the response of the electromagnetic wavefront to a thickness of the at least four sample materials;

wherein steps (a) through (d) are performed without substantially contacting the at least four sample materials with any probe.

Claim 36 (New): A method as in claim 35 wherein the surface of each of the at least four sample materials is substantially planar.